

**Case 3524**

***Thecla dumetorum* Boisduval, 1852 (currently *Callophrys dumetorum*): proposed neotype; and *Thecla sheridoni* Edwards, 1877 (currently *C. sheridani*) (Lepidoptera, LYCAENIDAE): proposed conservation**

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**Abstract.** The purpose of this case, under Articles 75.5 and 81.2.3 of the Code, is to eliminate current nomenclatural confusion within the butterfly genus *Callophrys* Billberg, 1820. Differing identifications of the lectotype of *Callophrys dumetorum* Boisduval, 1852 have changed the usages of *C. dumetorum*, *C. viridis* Edwards, 1862 and *C. perplexa* Barnes & Benjamin, 1923. A neotype of *Callophrys dumetorum* is proposed to restore these names to their previous stable usages. Moreover, the recently suggested conspecificity of *C. viridis* and *C. sheridani* Edwards, 1877 will



frequently synonymise *sheridanii*, a widespread, common and well known species, so it is also proposed that the widely used name *sheridanii* be given precedence over *viridis* whenever the two are considered to be synonyms.

**Keywords.** Nomenclature; taxonomy; Insecta; Lepidoptera; LYCAENIDAE; *Thecla*; *Callophrys*; *Callophrys dumetorum*; *Callophrys perplexa*; *Thecla sheridonii*; *Callophrys sheridanii*; *Callophrys viridis*; green hairstreaks; California.

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1. This case involves several species of small butterflies found in western North America (called ‘Green Hairstreaks’ because their wings are green ventrally) that were originally described in the genus *Thecla* Fabricius, 1807, and are now placed in *Callophrys* Billberg, 1820.

2. *Thecla dumetorum* Boisduval, 1852 (p. 291, number 22) was described from ‘Californie’. Until 1923 (Barnes & Benjamin, 1923, p. 65) the name was generally applied to all California *Callophrys* that later proved to belong to several species.

3. *Thecla viridis* Edwards, 1862 (pp. 221, 223, number 4) was described from ‘California’. It was considered synonymous with *dumetorum* (Scudder, 1876 (p. 105); Strecker, 1878; Haskin & Grinnell, 1912; Barnes & McDunnough, 1917 (p. 15); Barnes & Benjamin, 1926, p. 18), even by the author of *viridis* at a later time (see Brown, 1970, pp. 61–77). Clench (1944, pp. 221–227) resurrected *viridis* from synonymy and treated it as a separate species occupying coastal California, as detailed below in para. 6.

4. *Thecla sheridonii* Edwards in Carpenter, 1877 (p. 48) was described from the ‘Big Horn Mountains, Wyoming’. Edwards (1884, p. 299) emended the specific name to *sheridanii* because Carpenter’s preamble to the original description noted that the honoree was Lieutenant General P.H. Sheridan, and the printer misread Edwards’ handwriting of *sheridanii* (Brown, 1970, pp. 62–63) (Article 32.5.1 of the Code). Brown (1970, pp. 61–63) designated as lectotype a female from the W.H. Edwards collection in the Carnegie Museum of Natural History (Pittsburg, Pennsylvania, U.S.A.) and restricted the type locality to the foothills west of the town of Sheridan, Wyoming (Table 1 details this lectotype and its labels). It is a typical example of *Callophrys sheridanii sheridanii* that occurs throughout the Rocky Mountains from Montana to New Mexico. The name *sheridanii* has been used continuously for the same taxon to the present time.

5. *Callophrys dumetorum perplexa* Barnes & Benjamin, 1923 (p. 65) was described from ‘San Diego, California’ as a southern Californian ‘race’, the typical subspecies *C. dumetorum dumetorum* being represented by all northern Californian *Callophrys*. Gorelick (1971) placed *perplexa* into the synonymy of *dumetorum*, but since Emmel, Emmel & Mattoon (1998a) the name *perplexa* has been applied to butterflies in most of lowland California. The taxon denoted by the name *perplexa* is unambiguous; no other *Callophrys* species occurs within 500 km of San Diego, California.

6. Clench (1944) resurrected *viridis* from the synonymy of *dumetorum*. The name *viridis* was then applied to the coastal taxon until Emmel, Emmel, & Mattoon (1998a) (Clench, 1961 (p. 210); dos Passos, 1964; Tilden, 1965 (pp. 62–65); Scott, 1975 (p. 295); Miller & Brown, 1981). Clench (1944) designated a ‘neoholotype’ of *viridis*



from San Francisco, but Brown & Clench (1969) located a syntype of *viridis*, and determined that Clench's 'neoholotype' had not been a syntype (*Thecla viridis* is listed in *Official Lists and Indexes*, Opinion 953, BZN 28: 22–23, August 1971). Therefore Brown & Clench (in Brown 1970, pp. 65–67) designated as lectotype a syntype male of *viridis* from the W.H. Edwards collection in the Carnegie Museum (Table 1 details the lectotype and its labels). The name *viridis* clearly applies only to this taxon. This lectotype belongs to the coastal *Eriogonum*-feeding taxon, and its thin, soft, tinned brass pin was the kind used by H.H. Behr (Brown, 1970), who was stated to be the collector in Edwards' original description. Behr studied San Francisco butterflies while residing there (Emmel, Emmel & Mattoon, 1998b), thus the restriction of type locality to San Francisco by Clench (1944) seems correct and has never been disputed, and the original description of *viridis* is consistent with the coastal *Eriogonum*-feeding taxon.

7. Scott (1986, pp. 376–379) considered *viridis* synonymous with *dumetorum*, based on unpublished information from John F. Emmel (pers. comm.). Other lepidopterists ignored this synonymy, until Emmel, Emmel & Mattoon (1998a, p. 11, figs. 30–32) formally synonymised *viridis* under *dumetorum* and designated a female labelled 'Calif' from the J.B.A. de Boisduval collection in the National Museum of Natural History, Smithsonian Institution (Washington D.C., U.S.A.) as the lectotype for *dumetorum* (Table 1 details this lectotype and its labels). They stated that the type locality was 'Here restricted to San Francisco, California', and suggested the lectotype to be a well-marked specimen of the San Francisco taxon and noted that it resembled a published lithograph of *dumetorum* by Charles Oberthür (1913), who acquired Boisduval's collection. This action by Emmel, Emmel & Mattoon (1998a) shifted the species concept of *dumetorum* to the coastal California butterfly, rather than the inland species. This action changed the long-term historical usage of *dumetorum* for a widespread inland species to that of a coastal endemic, thereby eliminating the long-term usage of *viridis* for the coastal endemic. As a result of this action the name *perplexa* was applied to the taxon occurring across most of inland California. Currently, *viridis* is treated as a synonym of *dumetorum* (Pyle, 2002, p. 204; Pelham, 2008, pp. 196–197) or as a subspecies of *Callophrys sheridanii* (by Scott, 2008, p. 35, who recognised that *viridis* has priority over *sheridanii* but did not use the name *viridis* for the species' name pending this petition).

8. However, the identification of the lectotype of *dumetorum* by Emmel, Emmel & Mattoon (1998a) as conspecific with the nominal species *viridis* is doubtful, as we think it is more likely conspecific with *perplexa*. To more fully understand its status, we re-examined the lectotype of *dumetorum*. The figures of this specimen in Emmel, Emmel & Mattoon (1998a, figs. 30–31) are grossly overexposed, changing the green colours to yellow and obscuring most details. High-resolution images of the lectotype were obtained from Robert K. Robbins and Brian Harris of the Smithsonian Institution, who confirmed that the colours of the new images accurately depict the specimen. Table 1 details this lectotype and its labels. Pinned beneath the lectotype is also a dorsal figure of *dumetorum* (which is an accurate depiction of this specimen), clipped from an uncoloured Plate 236 of Oberthür (1913). Based on these photos, the lectotype of *dumetorum* possesses all the characteristics described by Boisduval (1852), and appears to be the same female illustrated as *dumetorum* by Oberthür (1913), as also noted by Tilden (1963, pp. 292–298) and Emmel, Emmel & Mattoon



**Table 1.** Details of the name-bearing types of *Callophrys dumetorum*, *C. viridis* and *C. sheridanii*.

Original name and type specimen	<i>Thecla dumetorum</i> Boisduval, 1852 lectotype	<i>Thecla viridis</i> W. H. Edwards, 1862 lectotype	<i>Thecla sheridanii</i> W.H. Edwards, 1877 lectotype
Sex	female	male	female
Publication designating lectotype, and published illustration	Emmel, Emmel & Mattoon (1998a, p. 11; figs. 30–31 of upperside and underside are grossly overexposed, so details are obscure; fig. 32 shows labels)	Brown (1970, pp. 65–67, where Brown & Clench designated lectotype; p. 66 has black & white photos of upperside & underside)	Brown (1970, pp. 61–63; p. 62 has black & white photos of upperside & underside)
Prior invalid designation of lectotype or neotype	Bálint & Nguyen (2006) and W.D. Field (in Tilden, 1963, p. 282) concluded that Oberthür (1913) previously designated this same female specimen of <i>dumetorum</i> as lectotype in 1913. Oberthür (1913) published lithographs of specimens that he believed were used by Boisduval to describe each species, ‘specimina typica’. Additionally, Oberthür evidently considered only the female lectotype to be type, because the male paralectotype mentioned by Emmel, Emmel & Mattoon (1998a) lacks the word ‘Type’ on a label equivalent to label #4 (see this Table 1 below) affixed to the female lectotype. However, ‘specimina typica’ was used frequently during the 1800s to mean ‘typical specimen’, which is not equivalent to the term ‘the type’ which is an acceptable substitute for ‘lectotype’ (Article 74.5). Moreover, Oberthür did not individually identify each figured specimen as ‘the type’ (Article 74.3). He also figured as ‘specimina typica’ both male and female of many species, thus neither of the pair can be considered as a lectotype. Oberthür’s (1913) figures thus do not fulfil requirements for valid lectotype designation	Clench (1944) designated a ‘neoholotype’ of <i>viridis</i> from San Francisco, but Brown & Clench (1969) found a <i>viridis</i> syntype and proved that Clench’s invalid neoholotype is not a syntype ( <i>Thecla viridis</i> is listed in Official Lists and Indexes, 1915–1987). Then Brown & Clench (in Brown, 1970) designated the lectotype	none
Repository	Entomology Department, National Museum of Natural History, Smithsonian Institution, Washington D.C., U.S.A.	W.H. Edwards collection in Carnegie Museum of Natural History, Pittsburg, Pennsylvania, U.S.A.	W.H. Edwards collection in Carnegie Museum of Natural History, Pittsburg, Pennsylvania, U.S.A.
Type locality in original publication	‘Californie’ (implied from the title of the publication)	‘California’	Big Horn Mountains, Wyoming
Later restriction of type locality	San Francisco, California (Emmel, Emmel & Mattoon 1998a, p. 11) (this locality is doubtful, see text paragraph 9)	San Francisco, California (Clench 1944, p. 227)	foothills of Big Horn Mts. west of Sheridan (town), Wyoming (Brown, 1970, p. 63)



Table 1. —continued

Labels placed on pin of specimen (style of writing or printing is subsequently noted in parentheses: 'printed' = machine printed; 'hand-printed' = printed by hand; 'cursive' = handwriting in which each letter flows into the next)	(1) 'LECTOTYPE <i>Thecla dumetorum</i> Boisduval Designated by Emmel, Emmel & Mattoon, 1998' (printed on red-pink paper); (2) 'Dumetorum Calif' (cursive) which according to Emmel, Emmel & Mattoon (1998a, p. 8 & fig. 2) was written by Boisduval; (3) 'Dumetorum. Boisd Californie' (elegant slanted hand-printed letters) (this label and similar ones on many Boisduval types are of unknown origin, but they are old and probably were prepared by an expert calligrapher employed by Charles Oberthür in the early 1900s); 4) large folded label 'Thecla Dumetorum Boisd. Type' (cursive), written by Rene Oberthür according to Emmel, Emmel & Mattoon (1998a, p. 8 & fig. 2); (5) 'Type dumetorum Bdv. a/c Hofer.' (cursive), written in 1925 by Foster Hendrickson Benjamin, the curator of William Barnes' collection in 1922–1927, using a list of Boisduval's types that Carl Höfer (who organized Oberthür's collection after Oberthür's death in 1924) had written (Scott, 2006; Calhoun, 2004) (the 'a/c' on the label means 'account current' in accounting, but in the context of biology means 'according to'); 6) 'EX MUSÆO D <sup>ris</sup> BOISDUVAL' (printed) inside a red rectangle; this label and the next were evidently commercially printed for Charles Oberthür; 7) 'Oberthur Collection' (printed) surrounded by a red rectangle on orange-yellow paper; 8) Pinned beneath the lectotype is an accurate paper figure of this female, specifically an uncoloured (prior to hand-colouring) clipping of this female's figure from Oberthür's (1913) original uncoloured lithograph of the upperside of <i>dumetorum</i> . A '1926' above the figured butterfly is the specimen's printed fig. #1926 in Oberthür (1913). This clipping was placed by Oberthür himself (see HESPERIIDAE photos on pp. 68–70 in Emmel, Emmel & Mattoon 1998a)	1) ' <i>dumetorum</i> ♂ Cal <sup>a</sup> ' (cursive) written by W. H. Edwards; 2) large label 'lectotype <i>Thecla viridis</i> ♂' (hand printed) 'W. H. EDWARDS designated by' (printed) 'F.M. Brown & H.K. Clench 1967' (hand-printed); 3) 'Collection W.H. Edwards.' (printed)	1) 'Sheridani ♀ Big Horn' (cursive) 2) 'Collection W. H. Edwards' (printed)
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(1998a). The lectotype photograph was carefully compared with material identified as *viridis* and *perplexa* (Table 2) and other *Callophrys* with the result that in five traits it is most like *perplexa*, and in two traits it is most like *viridis*. Our analysis suggests it is most likely to be a well-spotted specimen of the *perplexa* species, as treated by Clench (1944) and also Tilden (1963) who thoroughly discussed this specimen. However, Emmel, Emmel & Mattoon (1998a) and John Emmel (pers. comm., Dec. 2009) considered it to be a well-marked specimen of *viridis*. We consider *dumetorum* to be a nomen dubium because the lectotype cannot be identified as *dumetorum* or *viridis* with certainty. Moreover, the lectotype is missing diagnostic antennae and



**Table 2.** Traits of the *Callophrys dumetorum* lectotype compared to *Callophrys viridis* and *C. perplexa*. The taxa *viridis* & *perplexa* were confirmed to be separate species by Gorelick (1971), and are mostly allopatric but are sympatric on the Marina Beach Dunes in Monterey County California (John F. Emmel, pers. comm.), and starting in the mid 1900s a few specimens of *perplexa* were collected in San Francisco.

Trait	<i>viridis</i>	<i>dumetorum</i> lectotype	<i>perplexa</i>
Extent of russet or grey colour on the green ventral forewing	most have no russet colour (posterior area grey); posterior area sometimes brownish, 8 of 102 have russet area as large as lectotype*	russet area extends 2/3 of way to front margin	usually has large russet area that extends up to 4/5 of way to front margin, but several have no russet colour so the posterior area is all grey
Colour of ventral hindwing	bluish-green on 50% of adults, green (bluish-green at base) on ~50%, 3 are yellowish-olive-green	yellowish-grass-green, with bluish-green scales at base	green (usually yellowish-grass-green), with bluish-green scales at base
White spots on ventral hindwing	variable, 1 of 102 has no spots, most have 2–6, 18 of 102 have nearly complete set of 7–9 spots**	7 on hindwing (4 on forewing)	most have 1–3 spots, 14% of females at Brannan Is. have 4+ spots (Gorelick, 1971), very few have many spots***
Colour of dorsal side of wings of females	50% are slightly-brownish-grey with no orange, very many are slightly-orange brown, some are medium orange	slightly-brownish grey with no orange (the brownish tint obvious against grey background)	most are slightly- to mostly-orange, some have only a small weak orange central patch, rarely slightly-brownish grey with no orange
Wing fringes	most are whitish, some are like lectotype	dark with whitish tips (widely dark on upperside and ventral forewing)	somewhat variable, most are like lectotype, some are darker or whiter
Forewing shape on lateroposterior corner	most are perpendicular, some are obtuse	obtuse, not perpendicular	most are obtuse, few are perpendicular
Colour of antenna shaft and the base of the blackish antenna club (see Tilden, 1963, fig. 1 photos of <i>viridis</i> & <i>perplexa</i> )	most are white, making club look shorter, but ~40% (esp. on worn adults) are checkered black & white, making club look longer	club looks very long on Oberthür (1913) lithograph (antenna missing on lectotype), suggesting that antenna & base of club were chequered black & white before antenna loss	chequered black & white, making club look longer
Hostplant of larva	usually <i>Eriogonum latifolium</i> , rarely <i>Lotus scoparius</i>	?	usually <i>Lotus scoparius</i> , sometimes <i>Eriogonum</i>
Older larva	larger subdorsal ridges and stronger subdorsal stripes	?	smaller subdorsal ridges, weaker stripes
Range	sand dunes & hills on California coast from Monterey to Mendocino Counties	? (labelled only 'Calif')	throughout lowland California (a similar subspecies N to Washington)
Sample size	102	1	104

\*20 of John F. Emmel's 96 specimens (pers. comm.) have much russet colour, and \*\*30 of 96 have 7–8 white spots, greater frequencies than among Scott's 102 specimens, perhaps because most of his 96 were reared indoors (Scott's were wild-caught), which might possibly make the adults look a bit more like the hotter-environment *perplexa* than the cool-coastal-environment *viridis*. \*\*\*Sierra Nevada adults have more spots. Tilden (1963) found some with a complete macular band and illustrated a male with 6 spots from Mariposa Co. California, while K. Davenport found numerous adults from the southwestern Sierra Nevada with many white spots.

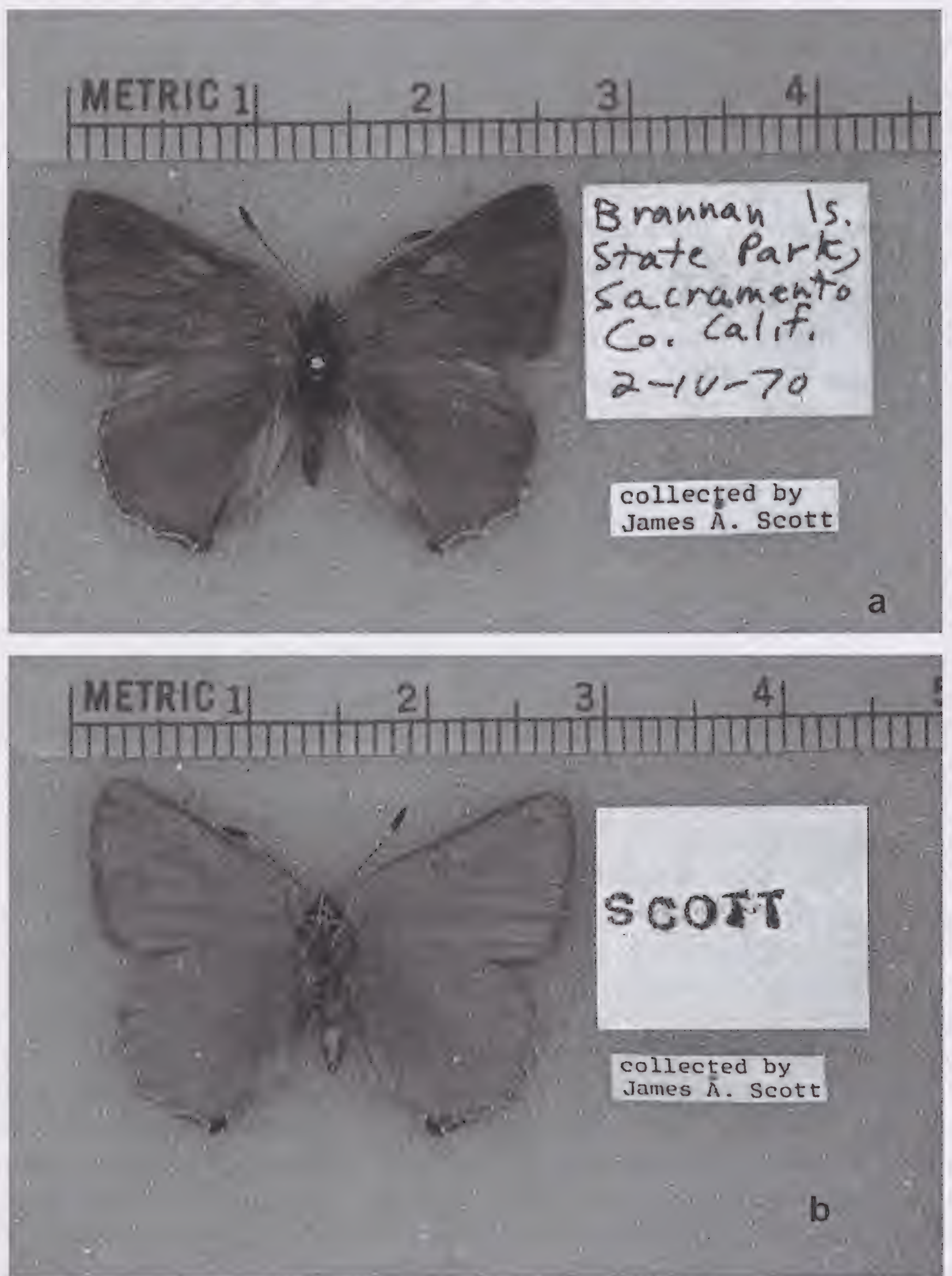


lacks an exact locality that could have helped in its identification. Boisduval merely labelled this [lectotype] specimen of *dumetorum* 'Calif', for Californie [i.e. California]. Emmel, Emmel & Mattoon (1998a) restricted the type locality of *dumetorum* to San Francisco because they believed that the lectotype represented *viridis*. Because the lectotype more likely represents *perplexa*, it may have been collected at an inland locality. The collector of the specimen, Pierre Lorquin, travelled widely in 1850–1851, including eastward on San Francisco Bay, farther east near Sacramento, and in the lower Sierra Nevada mountains including the lower drainages of the Yuba River and Feather River ('les montagnes de la Juba', in Butte, Plumas, Sierra and Yuba Counties) (Emmel, Emmel & Mattoon 1998a, pp. 4–7 & fig. 1; Boisduval 1852; Becker 1851), where adults occur that resemble the lectotype. The lectotype could have been collected within the ranges of four similar *Callophrys* taxa (*viridis*, *perplexa*, the central California Inner Coast Range *pseudodumetorum* Emmel, Emmel & Mattoon, 1998, and the Sierra Nevada *lemberti* Tilden, 1963).

9. The name *dumetorum* no longer clearly denominates the taxon that was meant because that name in a publication today could mean almost any of the butterfly taxa listed in this petition, and could apply to almost anywhere in western North America. Four examples of the current confusion: (a) K. Davenport (pers. comm.) has encountered difficulty deciphering the taxon meant by '*Callophrys dumetorum*' while entering collectors' locality records into the U.S. Biological Survey computer database; (b) Shapiro (2007, pp. 134–135) complained about the nomenclatural confusion involving *dumetorum* in his book on California butterflies; (c) Brock & Kaufman (2003, pp. 112–113), now the most popular butterfly book in North America, used the names *Callophrys perplexa viridis* (which is incorrect because *viridis* is older than *perplexa* and is a separate species) and '*Callophrys dumetorum/perplexa*', (d) the important book on caterpillars by Allen et al. (2005, pp. 58–59), the popular book by Glassberg (2001, pp. 92–93, 304), and the North American Butterfly Association (NABA, 1995) mistakenly combine several different species under *C. dumetorum*. There has been considerable historical confusion as well, as the name *dumetorum* has been applied to six different sets of butterflies: 1) from 1852–1923 it was applied throughout coastal and inland California to butterflies later proving to be two species; 2) from 1923–1944 to those same two species in northern California (*C. dumetorum perplexa* was used in southern California) (Comstock, 1927, pp. 168–169, pl. 50; Clench, 1944; Holland, 1931, p. 229, dos Passos, 1964; Miller & Brown, 1981, p. 105); (3) from 1944–1971 to northern California butterflies of the inland representative of those two species (Clench, 1944, 1961, 1963; Garth & Tilden, 1963, p. 36; Tilden, 1963; 1965; dos Passos, 1964; Dornfeld, 1980, p. 92; Miller & Brown, 1981); (4) from 1971–1998 to inland butterflies from both northern and southern California (Gorelick, 1971; Emmel & Emmel, 1973, p. 61; Scott, 1975); (5) from 1998–2006 to coastal butterflies of the second species (Emmel, Emmel & Mattoon, 1998a; Pelham, 2008); (6) now (without a neotype designation) *dumetorum* will replace the name of a third species, *C. sheridanii*, all over western North America, since Warren (2005, pp. 114–125), Pelham (2008) and Scott (2008) considered them conspecific.

10. A neotype for *Thecla dumetorum* Boisduval, 1852 is required to settle the disputed identity of this nominal species. We consider *dumetorum* to be a nomen dubium, and alternate interpretations of the name have caused instability in the





**Fig. 1.** Proposed neotype of *Thecla dumetorum* Boisduval, 1852 from Brannan Island, Sacramento Co. California. Dorsal top, ventral bottom.

usages of the names *dumetorum*, *viridis* and *perplexa*. The proposed neotype (Fig. 1) is a male that bears three labels: 'Brannan Is.[Island] State Park, Sacramento Co. Calif., 2-iv[April]-[19]70' (hand-printed) with a rubber-stamped black-ink printed 'SCOTT' on reverse; 'collected by James A. Scott' (printed); 'NEOTYPE *Thecla dumetorum*, designated by James Scott et al. March 2010' (hand-printed in red ink). It will be deposited in the Natural History Museum, London. The larval host plant at this locality is *Lotus scoparius* (Nutt) Otley (FABACEAE). This specimen was selected for the following reasons: (1) the area where it was collected was purportedly visited



by Pierre Lorquin, the collector of the lectotype of *dumetorum*; (2) this site (and the whole Central Valley of California) contains only one taxon of *Callophrys* (*perplexa*), thus there is no possibility of confusion with similar *Callophrys* in the Coast Range or Sierra Nevada; (3) it is common there and many specimens have been collected that are available for study; and (4) this population was used in a study comparing the wing pattern and biology of *C. dumetorum perplexa* with that of *viridis* (Gorelick 1971). The proposed neotype is a specimen of *perplexa* rather than *viridis*, because: (a) the 1998 lectotype seems more likely to represent *perplexa*; (b) that choice restores the 54-year usage of the name *dumetorum* for the inland California taxon (its usage for the coastal taxon formally lasted only 12 years); (c) that choice restores the name *viridis* to active use as the only undisputed name ever applied to the coastal butterfly; and (d) that choice facilitates the protection of the 133-year-old name *sheridanii*, discussed below. This neotype designation will eliminate most of the current confusion in *Callophrys* nomenclature. The name *perplexa* will become a junior synonym of *dumetorum* as Gorelick (1971) treated it (*perplexa* was used as the name of a species only after 1998 by some authors, so its demotion will not cause great difficulty).

11. Warren (2005) concluded that *Callophrys viridis* from California was conspecific with *Callophrys sheridanii*, based on the study of adult and larval traits, host plants, and distribution of sympatric populations of *Callophrys* in Oregon and northwestern California. He found that some southwestern Oregon populations were intermediate between *Callophrys sheridanii* and *viridis*, and also suggested that *Callophrys pseudodumetorum* (originally described as *C. perplexa pseudodumetorum*) from the Inner Coast Range of central California was similarly intermediate. Warren noted that *pseudodumetorum* couldn't be a subspecies of *perplexa* as originally described because the two were sympatric at the type locality of *pseudodumetorum* in Trinity Co. California without apparent interbreeding. Scott (unpublished) has located specimens in the University of Colorado Museum of Natural History (Boulder, Colorado) that indicate they are also sympatric in Stanislaus Co. California. Clench (1963) and Gorelick (1971) had hinted previously that *viridis* and *sheridanii* may be subspecies of one species. Accordingly, Scott (2008) considered *viridis* and *pseudodumetorum* conspecific with *C. sheridanii*.

12. This conspecificity is nomenclaturally unfortunate, because both names *dumetorum* and *viridis* are older than *sheridanii*. The name *dumetorum* will become a senior synonym of *perplexa* through the designation of the neotype requested in this petition, thus it will not supplant *sheridanii*. However, *sheridanii* is now threatened by the name *viridis*. The name *sheridanii* requires protection, because: (1) it has been continuously used for butterflies occurring across most of western North America since it was published in 1877, whereas *viridis* was only used from 1944–1998; (2) there have been about 250 usages of *sheridanii* in the butterfly scientific literature including dozens of major books such as Wright, 1905 (pp. 62, 212); Holland, 1931; Brown et al., 1957; Howe, 1975 (pp. 296–297); Dornfeld, 1980; Fisher, 1981, pp. 258–261; Scott, 1986; Pyle, 2002 and Royer, 2003 (p. 96) in U.S.A., and Layberry et al., 1998 (pp. 137–138, plates 28, 52); Bird et al., 1995 (p. 169); Guppy & Shepard, 2001 (pp. 208–209) in Canada, whereas the name *viridis* has been used much less frequently in scientific literature. The Secretariat holds a list of references to 229 scientific usages of the name *Callophrys sheridanii*; (3) *C. sheridanii* is a widespread



common species (Pelham, 2008; Scott, 2008), whereas the range of *viridis* has shrunk to two dozen colonies on the Pacific Coast near San Francisco; (4) *C. sheridanii* is beautiful and is one of the first butterflies to appear in spring, thus it is a popular image on many non-biological Internet sites; (5) *C. sheridanii* was declared Official Butterfly of the state of Wyoming by their legislature and governor in 2009; (6) considerable confusion and instability would result if the more familiar name *C. sheridanii* (with its nine nominal subspecies) were replaced by *C. viridis*, with the likelihood that the names would frequently be switched back and forth between *C. viridis* and *C. sheridanii* by researchers who disagreed about their conspecificity. Therefore, synonymising the name *sheridanii* would cause much more consternation and confusion than would the reversal of precedence of the name *viridis*, which would remain in use as a subspecific name. Article 81.2.3 applies to the names *viridis* and *sheridanii* because Warren (2005) and Scott (2008) considered them conspecific, thus treating them as subjective synonyms as per Article 61.3.1 and the Glossary of the 4th Edition of the Code. Warren (2005), Scott (2008) and Pelham (2008) declined to use the combination *C. viridis sheridanii* in anticipation that a petition would be submitted to the Commission to protect the name *sheridanii*. Conditional suppression of *viridis* will result in few complaints, because *viridis* is a useful undisputed name that will continue to be used for the coastal taxon, either as the species *C. viridis*, or as the subspecies *C. sheridanii viridis* whenever *viridis* and *sheridanii* are considered to be conspecific.

13. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power:

(a) to set aside all previous type fixations for *dumetorum* Boisduval, 1852, as published in the binomen *Thecla dumetorum*, and to designate as the neotype a male from Brannan Island, Sacramento Co. California, to be deposited in the Natural History Museum, London, as specified in para. 10 above;

(b) to give precedence to the name *sheridanii* Edwards, 1877, as published in the binomen *Thecla sheridonii*, over the name *viridis* Edwards, 1862, as published in the binomen *Thecla viridis*, whenever the two are considered to be synonyms;

(2) to place on the Official List of Specific Names in Zoology the following names:

(a) *dumetorum* Boisduval, 1852, as published in the binomen *Thecla dumetorum* and as defined by the neotype male from Brannan Island, Sacramento Co. California deposited in the Natural History Museum, London, as ruled in (1) above;

(b) *sheridanii* Edwards, 1877, as published in the binomen *Thecla sheridonii*, with the endorsement that it is to be given precedence over the name *viridis* Edwards, 1862, as published in the binomen *Thecla viridis*, whenever the two are considered to be synonyms;

(3) to emend the entry on the Official List of Specific Names in Zoology for *viridis* Edwards, 1862, as published in the binomen *Thecla viridis*, to record that it is not to be given priority over the name *sheridanii* Edwards, 1877, as published in the binomen *Thecla sheridonii*, whenever the two are considered to be synonyms.



## Acknowledgements

Robert K. Robbins (aided by Brian Harris) of the Smithsonian Institution sent photos of the *dumetorum* lectotype and offered advice. Norbert G. Kondla and John F. Emmel offered helpful comments.

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Acknowledgement of receipt of this application was published in BZN **67**: 120.

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